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ORIGINAL ARTICLES

VALVULAR LESIONS IN THE AGED.*

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Valvular lesions of some sort exist in the great majority of the aged. In a great many instances they cause no subjective symptoms, in fact are not likely to so long as a compensatory hypertrophy exists. Just so soon, however, as dilatation occurs, the aged person develops a most distressing and alarming condition. While in the young adult or in the middle-aged individual we are able to give a favorable prognosis, in the aged, in the majority of cases, a most guarded one must be entertained. This does not necessarily mean that decompensation in the aged foretells dissolution.

Bearing the foregoing facts in mind, it behooves us to carefully examine the heart in all our aged patients. We should bear in mind that the detection of a most pronounced murmur or murmurs accompanied by even great hypertrophy of the cardiac muscle, and displacement of the apex beat is not necessarily a factor in the ailment that has caused our aged patient to seek consultation and advice. Dyspnœa, a marked and distressing symptom in valvular lesions of the heart, may be caused by other pathological changes.

I recently saw a case in which a diagnosis of valvular heart disease had been based upon the subjective symptoms of dyspnœa and palpitation upon the slightest exertion, and the objective symptom of tachycardia markedly increased following the most moderate exercise. Upon examination no valvular lesion was detected, but a large area of fibroid pulmonary tissue involving a third of the left lung was demonstrated. Having detected a valvular lesion in an aged person, even though at the time it may not be a factor in the existing illness, we should not ignore it; and although at the time it may not call for active therapeutic measures, prophylactic measures for maintaining the existing compensation should be carefully considered.

Valvular lesions are referred to as aortic stenosis, aortic regurgitation, mitral stenosis, mitral regurgitation, pulmonary stenosis, pulmonary regurgitation, tricuspid stenosis and tricispid regurgitation.

Murmurs are classified as systolic, diastolic and presystolic, depending upon the time during the cardiac cycle at which the murmur is heard.

I wish to discuss more especially valvular lesions involving the mitral and aortic valves, as these lesions constitute the vast majority of valvular involvement, primary pulmonary and tricuspid lesions being relatively rare. In considering the differential diagnosis of heart lesions it is mandatory we should have a clear understanding of the factor or factors producing murmurs. A murmur results when blood in the course of its circulation through the heart meets with resistance or when it is returned to a chamber of the heart through an incompletely closed orifice. Thus when the left auricle goes into systole forcing the blood into the left ventricle, if the mitral valves do not properly close, as the left ventricle contracts forcing the blood into the aorta, a certain amount of blood is allowed to flow back into the left auricle. This produces a blowing murmur, systolic in character, heard with the greatest intensity at the apex of the heart and transmitted to the left, or what

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we term a mitral insufficiency or mitral regurgitation. The condition may be produced as a result of degenerative changes in the valves themselves, or it may be a relative process. In the former syphilis and rheumatism are common factors. In the latter, dilatation of the left ventricle as a result of either an aortic stenosis or regurgitation, more frequently the latter, expands the mitral orifice to such an extent that the valves while normal in themselves are incapable of closing the aperture and regurgitation results.

The resulting pathology is not hard to follow. The valves themselves become thickened and hardened, at first mobile they may become adherent to the wall of the ventricle allowing an increasing regurgitation. This in turn results in a greatly dilated and later hypertrophied auricle. As the blood becomes dammed back, involvement of the right side of the heart later occurs, venous obstruction taking place followed by a passive congestion of the internal organs.

The subjective symptoms of a mitral insufficiency, and in other valvular lesions, are negative just as long as compensation exists. It is not uncommon to find a marked murmur diagnostic of these lesions, with absolutely no subjective symptoms. With compensation broken, however, the familiar symptoms of cardiac dilatation, consisting of dyspnœa, palpitation and cyanosis upon the least exertion, become manifest. As the resulting pathology takes place increased dyspnœa, cough with a blood-stained expectoration, liver enlargement and kidney involvement occur.

With little doubt a mitral stenosis is overlooked more frequently than any other cardiac lesion. It is of frequent occurrence in the aged and is due to a degenerative process in the valve, also being a frequent sequlæ in chronic Bright's disease. As the left auricle goes into systole, the blood flow meets with resistance as it forces its passage through the narrowed orifice producing a presystolic murmur heard with the greatest intensity over a decidedly limited area slightly above the heart apex. It is not a transmissible murmur, may be detected without great difficulty at one examination while hard to demonstrate at another, which together with the fact that it is heard over such a limited area is probably responsible for the lesion going unrecognized as often as it does. The damming back of the circulation takes place more rapidly than in a mitral insufficiency, pulmonary manifestations are more frequent and hemoptosis frequently occurs. It is almost invariably later associated with a regurgitation, the physical signs of the latter often overshadowing the original lesion. The immediate effect of a mitral stenosis on the cardiac chambers is primary dilatation of the left auricle, for with this chamber contracting for the purpose of forcing the blood into the left ventricle, the resistance met at the mitral orifice allows a certain amount of this blood to remain in the auricle, so that as the pulmonary vein empties into the chamber in the succeeding cycle the auricle is already partly filled, dilatation of the chamber resulting as an accommodating factor. Bearing the resulting pathology in mind, it is easy to see why hemoptosis is of such frequent occurrence in this cardiac lesion.

The subjective symptoms in a mitral stenosis as in all valvular lesions remain negative to a greater or lesser extent just so long as compensation exists. As decompensation is about to take place, the heart becomes markedly irregular during any exercise, but may become comparatively normal in rhythm as soon as the patient is put at rest. Dyspnœa, palpitation, asthenia upon the least exertion, cough and hemoptosis are frequent symptoms, following rapidly upon each other as soon as decompensation sets in.

Probably of greater frequency in the aged of all the valvular lesions is an aortic regurgitation. Syphilis and rheumatism are prominent etiological factors in the condition, producing defects in the valve itself.

Valvular degeneration due to senility and arteriosclerosis are frequent etiological factors. The lesion, however, may exist following dilatation of the orifice itself when it is termed a relative lesion, the condition being produced by an aortic aneurism.

As a result of valvular defect or in a relative process from the dilatation of the orifice itself, as the left ventricle, having during systole forced the blood into the general circulation, goes into diastole a return flow of blood into the ventricle results from the failure of the aortic aperture to become properly closed. A long blowing diastolic murmur results, this being heard with the greatest intensity in the right second intercostal space and transmitted down the sternum. A diastolic valvular murmur in the aged is pathogonomic of aortic insufficiency and should at all times command our most careful attention.

As a result of this cardiac imperfection, the blood flowing from the left auricle and in addition blood regurgitating from the aorta, the left ventricle dilates and hypertrophies. It is in this lesion we see the largely distended heart and the decided displaced apex beat. If the condition exists long enough mitral involvement takes place, this in turn being followed by the usual symptoms as the delicate balancing of the auricle and ventricle together with that of the right and left heart is interfered with.

It is surprising what little discomfort a patient may experience with a most pronounced aortic regurgitation and with an immensely dilated heart just so long as compensation remains intact. Outside of the physical signs detected upon chest examination the most pronounced symptom and one so familiar to all of us is Corrigan's water hammer pulse. As a result of dilatation of the left ventricle and the accompanying hypertrophy unusual force attends the systole of the left ventricle. It is plainly evident why this overdeveloped contraction, also taking into consideration the fact that the left ventricle contains and expels more than the normal blood output, should produce a strong, full pulse. It is also plain as the blood regurgitates into the left ventricle during diastole why the pulse necessarily loses its force, alternately being strong and full during systole and soft and weak during diastole.

The water hammer pulse as described is pathogonomic of this particular heart lesion. Increased pulsation of the carotids is also an early symptom. As compensation becomes broken, the usual symptoms of dyspnœa, cough, venous engorgement and pain in the precordial region occur. An important symptom in aortic regurgitation is capillary pulsation which may be demonstrated by drawing the thumb nail across the forehead, when the line reddens, becoming paler with each succeeding pulsation. (Nascher.) Aortic stenosis, while not as frequent in the aged as aortic regurgitation, is frequently met with. When present it is practically always a complication of some other preexisting valvular defect. The murmur, systolic in character, is produced as the left ventricle contracts to expel its contents into the aorta. Meeting with resistance as a result of the narrowed orifice the murmur results being heard with the greatest intensity in the right second interspace, being transmitted upward to the neck, in contradistinction to the diastolic murmur of an aortic regurgitation which is transmitted down the sternum. Of diagnostic importance is the decidedly lessened cardiac impulse over the apex. The pulse is more frequently intermittent and slow.

In considering the treatment of valvular lesions in the aged the same principles, in a general way, apply as in the treatment of our younger patients suffering from similar defects. It is, however, especially imperative that in the care of the aged, we should to a large degree assume a waiting, watchful policy in so far as active therapeutic measures are concerned. We should be content to let well enough alone provided the aged patient is in comparative comfort, and the mere fact that such a patient presents himself with a markedly hypertrophied

heart, with more or less acceleration of the heart beat, should not in itself make us feel forced to seek our armamentarium of therapeutic aids. However, just so soon as these patients appear to be decompensating, they require the most careful handling. While compensation is complete, the aged person should be encouraged in moderate exercise, but any attempt at sudden exertion or rapid movement should be absolutely forbidden. Many such patients have ended their days abruptly as a result of what were apparently only minute indiscretions. Just so soon as there is any suggestion of compensation breaking down, absolute rest should be enjoined. Therapeutic measures, while of great value when judicially administered, may prove a decided detriment if incautiously resorted to. Nascher gives the following general rules which should be adhered to in the administration of drugs to the aged with cardiac disease:

"Heart tonics should not be given until they are required to overcome weakness, and heart stimulants should never be given except in an emergency or to counteract rapidly acting cardiac depressants. Heart depressions are of service only in hypertrophy without valvular lesions."

Our sheet anchor in the treatment of cardiac lesions in the young adult or in middle life—digitalis—is a dangerous drug in the treatment of the aged. It should be remembered that the action of this drug is cumulative, and that little is to be expected from it when we want immediate action. Aconite in one minum doses or veratrum viride will give good results when it is desired to lower the heart tension, relieve cerebral tension or lower the pulse rate. In the weak rapid heart, tincture of strophanthus in two to five minum doses repeated every three or four hours will be of service. Following the loss of compensation in aortic stenosis when we find our aged patient with a slow weak pulse, spartein sulphate will prove of great value. In the over-distended heart of an aortic or mitral regurgitation the nitrites will prove of inestimable benefit. Sodium nitrite and glonoin are the preparations of the writer's choice, but care must be maintained not to use them, or at least to exercise caution in their administration where cerebral congestion and a high blood pressure exist. Among the cardiac stimulants that should be the drugs of choice in the care of the aged, may be mentioned Hoffman's anodyne, camphor, the ammonium salts and alcohol.

The most distressing symptom which we are called upon to treat in this class of patients is undoubtedly dyspnœa. With little question, the drug of greatest value in the amelioration of this distressing symptom is morphine. It should be given hypodermically in doses of from one-eighth to one-fourth grain. For instantaneous relief where it is not contraindicated, amyl nitrite is of great service. In extreme cases of cyanosis, oxygen should be employed.

It has been more with the thought of provoking a discussion of this very important and interesting subject rather than any attempt to cover the subject that this paper has been prepared. To cover in detail the diagnosis, care and treatment of valvular lesions in the aged would not be practical in the time at my disposal, but I would, in closing, urge that careful attention be paid to the examination of the heart in our aged patients. Their span of life may be materially lengthened if we will take the time to thoroughly familiarize ourselves with the condition of their cardiac function. Our diagnosis being complete, we may prolong the days of compensation by careful prophylactic measures; and when compensation is lost, life may still further be prolonged by the careful and intelligent administration of therapeutic aids.

On the other hand, by slipshod diagnostic methods we may shorten the days of compensation and still further hasten the crisis by the administration of contraindicated drugs.

SENILE BRONCHITIS.*

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The most frequent form of bronchitis met with in senility is that of chronic bronchitis.

The affection very rarely arises as the termination of a single attack of acute bronchitis; it sometimes follows the repeated attacks which result from continuous exposure to the cause of catarrhal affections.

It constitutes an important manifestation of certain circulatory derangements as cardiac disease, thoracic aneurism, arteriosclerosis, some chronic pulmonary affections as pneumoconiosis, asthma and emphysema, certain diatheses as chronic alcoholism, rheumatism, gout and syphilis.

The winter cough of elderly and invalid persons is well known and is often absent when the patients are able to avoid the cold and changeable weather of the North by a temporary stay in a warm, dry and even climate. The influence of age is marked.

The pathological lesions vary both as regards their nature and extent, they affect different parts of the bronchial mucosa in varying degree and in irregular patches and consist of loss of epithelium and sometimes the mucous membrane is quite thin; in another large group of cases the mucosa is irregularly thickened or infiltrated and granular, atrophy of the glands and muscularis and dilatation of the walls of the tubes. Small ulcers corresponding to the mucous follicles are common.

The symptoms of senile or chronic bronchitis are less severe than those of acute bronchitis. There is cough of variable severity, less troublesome in dry, warm weather and always worse in the cold and changeable weather of winter and early spring, paroxysms are most frequent and severe at night and early morning, with comparative freedom throughout the day, the violence of the paroxysms depends upon the character of the bronchial secretions and the seat of the catarrhal inflammation, when the expectoration is tenacious and scanty and when the small sized tubes are affected cough is most violent, as a rule the expectoration is rather copious and either muco-purulent or distinctly purulent in character. Shortness of breath is common upon exertion in advanced cases, due to emphysema and to some extent to cardiac weakness. Fever is usually absent and there is no pain.

There are several indications for treating these cases; remove the cause of the primary condition and the intercurrent exacerbations; raise the patient's general health in every possible way; use means to regulate the amount of the expectoration and relieve all unnecessary cough, which not only tends to keep up the catarrh, but also increases the emphysema, may dilate the bronchi and further tends to wear out the patient by causing sleepless nights and disturbed days.

As a rule these senile cases do not bear drugs well and medicines are palliative in their effects rather than curative.

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THE EFFECTS OF SENILITY ON THE KIDNEY.*

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The effect of senility on the kidney is the same as that produced by a chronic interstitial nephritis, and is so usual that it is hardly pathological to find at autopsies of persons over fifty years old the changes incident to this disease, shrunken kidney and destruction of tubular substance and overgrowth of connective tissue. These changes are caused by the tendency of the connective tissue to keep growing or increasing during life. Upon minute examination of the senile kidney substance the excess of connective tissue is the most noticeable change. The tubules which in healthy kidneys are closely in contact are found

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separated by certain tracts of connective tissue which mechanically cause destruction of the tubules and vessels. The capsule of the kidney is found thickened and adherent, the whole organ being much smaller than in young persons, that is the contracted kidney which is only another name for chronic interstitial nephritis.

The term chronic interstitial nephritis is not usually applied to the changes due to senility unless accompanied by some of the well-marked symptoms of destruction of the kidney substance, such as albuminuria or uræmia accompanied by arteriosclerosis.

THE MANAGEMENT OF SENILE DEBILITY.*

JOHN REEVE, M. D.,

DeLand, Fla.

During the consideration of this subject I have been forced to recognize these two facts:

First: That life is but a process.

Second: That we begin to die the moment we begin to live.

Before touching upon the treatment of senile debility, it will be necessary for me to say a word or two in regard to its etiology, or cause. One word, I think, will do—and that is "arterioschlerosis." It may not be general; in fact, is often found only in the aorta, the cerebral arteries and the coronary arteries of the heart. You will notice, however, that it is usually found where it can do the most harm, and the old saying that "a man is as old as his arteries," is literally true, and I have no hesitation in saying that arteriosclerosis, directly or indirectly, causes the death of the vast majority of old men. I need not define the term: we all know that it means the hardening, or induration of arterial walls, with loss of the usual elasticity, together with a decrease in the lumen of the vessel.

Take, for example, the possible effect of this process upon the coronary arteries, the nutrient vessels of the heart. We will probably have angina pectoris, aortic stenosis, with left hypertrophy, compensatory, for a time, then finally dilatation of the left heart with general anasarca and ascites, with the usual final results.

Also, the nutrition of the kidney being decreased, the result would be to decrease its power of eliminating effete products, and when we consider the fact that there are from three to five hundred grains of urea alone to be eliminated by the kidneys every twenty-four hours, beside other excrementitious matter, which, if not removed from the system, is absorbed, and this process going on, we soon have a nervous explosion in the shape of a convulsion, as we do in eclampsia which is merely a toxemia.

We may also, at this time, expect hypertrophy and other diseases of the prostrate, with their distressing sequelæ.

In the brain, a brittle vessel often gives way, even when blood-pressure is normal, and we have a clot of blood, large or small, in the substance of the brain, with the usual paraplegia, or hemeplegia. If the clot is small, it may be absorbed; if large, it is as fatal as a bullet.

"As a man sows, so shall he reap." The man of the present day, if he is of a nervo-sanguine temperament, lives too fast—is too intense, makes a "mountain out of a mole-hill," and literally "burns the candle at both ends." The direct antithesis to this is typified by the big, phlegmatic Dutchman, with his beer and tobacco. He is placid and almost torpid, under all circumstances and conditions, and we might think a man of this class, with no more nerves than a cow, would be good for a century; but he is too lazy and his adipose tissue, together with his beer and tobacco, get him earlier.

If this theory is admissible, then senile debility is merely a symptom of organic change which is inevitable and steadily progressive. What, then, are the indications for treatment, or management—that is the best word, because the ordinary routine

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treatment by medicine is useless? Ordinarily, we try to remove the cause. Here we can not; it is a pathological condition. There is organic change of structure, and while we call it pathological, it may be considered physiological in the very old, and it is this process gradually and stealthily going on, day by day and year by year, decreasing the supply of nutrition to vital organs, by decreasing the lumen of the vessels through which it has to pass until they are almost entirely occluded, and we die of what is commonly and improperly called "old age." We do not die of "old age," but from the effect of organic changes which finally become incompatible with life.

Patients with this form of debility in this climate are fortunate in being here, and those elsewhere can safely be advised to come here because we prescribe for them fresh air and sunshine most of the time, and nowhere can we utilize so much of both as in the climate of Florida.

We try to remove all sources of mental strain and worry. Can we do this? Not once in a thousand times.

The functions of all the organs are imperfectly and improperly performed and require our close attention, especially the constipation, which is always present. We should prescribe the strictest hygienic rules and see that they are observed.

In regard to the daily bath, neither very hot nor very cold water should be used; the one is too depressing, the other too much of a shock. Tepid water is safer and in some cases we will have to be satisfied with the sponge bath only.

The selection of a proper diet is of the greatest importance, but as there are no two patients exactly in the same condition, we can not specify definitely, but prescribe according to individual pecularities, or idiosyncrasies, as the case may be.

Exercise, active or passive, is indicated, up to the point of fatigue, in most cases. The form and amount must be governed by the condition of the heart. If there is dyspnœa on slight exertion, rest must be absolute.

Pleasant environment and cheerful society have their effect, and are always to be considered, but I am not sanguine in looking for permanent or satisfactory results from any kind of treatment in this form of debility, and I have indicated why.

However, in this way, and by these means, we hope to defer, at least for a time, the final stage of the process where vital action ceases, and chemical action begins.

URINARY TROUBLES OF THE AGED.*

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Port Orange, Fla.

It is not my intention to inflict upon this society an abstract from text-books or to present any original ideas, but in few words to call attention to certain troubles with which the general practitioner is often confronted. As old age approaches the venous circulation becomes more sluggish and we find the aged are especially subject to catarrhal affections and urinary diseases. I shall confine my remarks to two conditions only, namely, cystitis and indicanuria. Cystitis has been the subject of so much discussion that I shall confine myself to my own experience and personal observation. I find cystitis in the male to be the result of retention, due to stricture or enlarged prostate, the use of unclean instruments, traumatism, overdistention, extension of pus-producing germs from the urethra and from drugs. In the female I have generally found cystitis due to septic invasion from the urethra, pressure on the bladder from a misplaced uterus or very commonly from a partially paralyzed bladder, the result of postponing the voiding of urine. It is understood that the cause in every case must be taken into consideration, that in the treatment by washing the bladder most absolute cleanliness is necessary, and that patients should be in-

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structed to empty the bladder as thoroughly as they can without undue exertion.

Regarding indican in the urine of the aged, I do not think it receives the consideration it should. We all know that indican is a constituent of normal urine, but in a limited amount. Indican in increased amount, constantly present in the urine of the aged, is to me a grave symptom, it is directly associated with diseases of the small intestine; it is the result of intestinal putrefaction, most noticeable in those that use meats as their principal food, and least where milk (either sweet or sour) is their main diet.

I believe that many cases of so-called intestinal dyspepsia in the aged would be cleared up by a proper examination of the urine that should in all cases include an examination for indican. My favorite test is: To a dram of urine in a test tube add an equal amount of hydrochloric acid warmed to about blood heat, then add five or six drops of a one per cent solution of chlorate of potassa, agitate thoroughly as each drop is added, put the test tube in cold water for four or five minutes and add a few drops of chloroform; shake well and the chloroform becomes blue in proportion to the amount of indican (or to speak correctly, indoxyl-potassium sulphate) present.

Before making this test, it should be ascertained that the specimen contains no albumin; if present it should be removed by boiling and filtration.

After I had written what I have just read I found in Simon's clinical diagnosis the following regarding indicanuria:

"An examination of the urine in this direction is at least as important as the testing for albumin and sugar, and that points of decided importance, not only in diagnosis, but in treatment, may thus be gained."

Over 200 samples of water were examined in our laboratory, also several samples of sewage. Such an amount of work is encouraging and we court still more.—*Florida Health Notes.*

DIET IN SENILITY.*

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New Smyrna, Fla.

In considering the diet of the aged there are a few general rules which apply to all old people if they are otherwise in good condition. The secretory apparatus of the digestive organs has undergone some degree of atrophy in common with the rest of the body, so that they can not digest as large or as frequent meals as formerly, and this is further influenced by the fact that the muscular structure of the stomach and intestines has so deteriorated that they can not empty themselves of as large or as frequent amounts of food as they formerly did. These facts explain the frequency of gastritis and pyrosis in those who persist too long in hearty and frequent meals as well as the usually attendant constipation. Therefore the old should eat less food and at intervals of 5 or 6 hours. If there are not enough teeth for proper mastication, they must be induced to get them, and this is more easily accomplished in women than men as their vanity causes them to more greatly value their improved appearance. If food can not be properly masticated it should be chopped fine or given in the form of mush.

Meats should not be eaten oftener than once a day; they should be rather *underdone*, and no pork at all. Fish and shellfish are satisfactory except a possible individual tendency for them to cause trouble. The cereals and breakfast foods are all desirable as well as those vegetables which leave much residue in the bowel to stimulate peristalsis. Small amounts of the light wines are permissable and often beneficial, but the heavy wines or beer should not be taken, especially if they tend to cause pyrosis or flatulence. Milk and buttermilk of course are desirable, but tea and coffee should be weak and preferably taken some little time after the regular meal.

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Nothing should be eaten between meals except a glass of hot milk at bedtime if they do not sleep well. It is well to take a glass of hot water before breakfast, to which a pinch of salt may be added or cathartic salts if there is constipation. In those who are ill care must be taken that they take a proper amount of nourishment in appropriate form as they frequently do not care whether they recover or not, and they often have a repugnance for all foods. In the event of gastric or intestinal disorders there can be no rigid rules of diet that can apply to all cases, except that it is usually wise to avoid the purin-forming substances as well as those containing a large amount of celulose or water. In the general diet of the aged all excesses must be avoided, but Nascherwell remarks that "a man who has lived so rational a life that he has reached old age it can be safely left to his own judgment to decide how much he can drink and smoke without harm."

THE DEGENERATIVE AND VASCULAR CHANGES OF THE AGED—ARTERIOSCLEROSIS AND ATHEROMA.*

J. E. McGUNAGLE, M. D.,

Daytona, Fla.

There is no longer any doubt that the adrenal glands exercise a controlling influence on the heart and the whole circulatory system. They are in relation with the principal nerves that regulate the heart, the sympathetic and vagus. Thus, for instance, emotions that act on these nerves, excite through them a hypersecretion of the adrenals and a contraction of the smaller blood vessels with a rise in blood pressure. By a hyperactivity of these glands their secretion is thrown out into the system in a larger quantity than is usual and produce toxic effects resulting in an atheromatous condition of the arteries.

Professor Edgreen, of Stockholm, in his article on arteriosclerosis, published in 1898, cites the singular fact that all those agencies that produce hypersecretion of the adrenal glands, such as tobacco, alcohol, mercury, lead and arsenic poisonings, infections such as syphilis, are also known to be harmful in causing arteriosclerosis. The same author speaks of abundant meat food, strong tea and strong coffee as being productive of arteriosclerosis, but maintains that as yet there are no scientific proofs that these latter agencies have any deleterious action on the adrenals.

However, it remained for Leo Breisacher, of Detroit, to demonstrate their evil effects on the thyroid gland in Graves' disease and in thyroidectomized animals. This same researcher, together with Sajous and all observers, noted a hypertrophy of the suprarenal glands in subjects showing a degeneration of the thyroid.

All investigators of the ductless glands and internal secretions agree that all the glands are intimately correlated, and any agency that has an evil influence on one will in time effect all. Particularly is this true in regard to the thyroid.

Albertoni and Tizoni, in their interesting experiments, showed that a condition of interstitial nephritis developed in all animals that survived thyroidectomy. This condition was brought about in such an astonishingly short time as three weeks after operation. The urinary tubules lost their epithelium and the parenchyma showed distinct signs of inflammation. Interstitial nephritis has long been recognized as the most common accompaniment of arteriosclerosis.

In myxœdema and hypothyroidia albumen, hyaline and granular casts are commonly found in the urine. These cases likewise suffer from obstinate constipation. They likewise have an atrophy of the sudorific and sebaceous glands so the skin can not perspire. Due to these causes toxic products are retained in large amounts and a condition of auto-intoxication necessarily

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follows. The late Professor Metchnikoff placed auto-intoxication in the front ranks for production of arteriosclerosis.

It would thus seem that the chief agencies for the production of arteriosclerosis are, first, a hyperactivity of the adrenal glands causing a rise in blood pressure. This forces more blood through the arteries causing them to dilate under the strain. After repeated dilatation the elasticity is impaired, the passage of blood through the capillaries is impeded and the heart's work increased. The nutrition of the vessel walls will thus necessarily be decreased. Another cause might be a degeneration of the thyroid which normally antagonizes the adrenals and lowers blood pressure.

The best preventive would then be, to increase the activity of the thyroid and avoid all agencies known to be harmful to the adrenals. Moderation in food is certainly essential with little or no meat that the viscosity of the blood be reduced. A vegetarian diet with milk, but not in too large quantities at one time, would seem best. Bodily exercise and climbing in excess should be avoided. Through it frequent excitation of the splanchnics and adrenals may promote arteriosclerosis. Most harmful is tobacco, for nicotine, alcohol and adrenalin have a like action in the production of constriction of the smaller blood vessels. The hygiene of the intestines is of great importance as well as that of the skin.

A DEFINITE DISCUSSION OF THE INDEFINITE TERM "INDIGESTION."

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Atlanta, Ga.

The broad gateway through which the majority of patients come, who present themselves to the gastroenterologist for treatment is labeled "indigestion"; and under this term are commonly included all forms of discomfort in the abdomen, especially in that zone which embraces the epigastrium and the two hypochondria, and extending horizontally to the back.

This discomfort may be one of sensation, the cry of distress being carried by sensory nerves. In this class it may occur as a more or less defined sense of local fatigue, up through the ascending scale of weight; of pressure; of dragging; of aching—dull or sharp; of pain—dull or sharp, intermittent, remittent, or constant; of internal irritation, as of burning—which the patient may call an internal acidity; of emptiness; of hunger; of nausea; of desire for pressure or heat externally, or heat internally through food or drink; of stagnation, as though the food lay heavily like an incubus in the stomach; of over-activity, as though the food was rushed through the stomach like coal down a chute. These discomforts may appear before, during, or after eating, may be mitigated or aggravated by eating or drinking; or may not be affected at all by food or drink.

Then this discomfort may be one of action, the signal being carried through the motor nerves. Then it may occur as an over-active or noisy peristalsis, which may be both felt and heard; as an intermittent or remittent reversed peristalsis, driving before it through the esophagus, pharynx, or mouth, gaseous, solid or liquid gastric or duodenal contents—in the form of eructations; or of regurgitation or vomiting of food or secretions, or of both; or as decreased peristalsis, causing arrest or detention of gastrointestinal contents.

These sensory and motor phenomena are usually accompanied by some degree of related or reflex secretory, nutritive, visceral, circulatory, respiratory, neuro-muscular or psychic disturbances.

From time immemorial, in the presence of these grouped phenomena, the medical profession and the laity have made the indefinite diagnosis of "indigestion," and have labored to increase the digestibility of foods, or to increase the digestive powers of the sufferer. This line of thought and endeavor has brought success in some instances, egregious failure in many.

The difficult branches of physiology and its first cousin, living pathology, have only slowly been able to explain both the successes and failures. It is especially due to the stimulus of these branches, corrected and enlarged by clinical observations and aseptic surgery, that we are acquiring a new viewpoint of the physiology and living pathology of the abdominal viscera, of the relation between the objective conditions and the subjective manifestations; and of the intermediate steps preceding the terminal lesions noted in autopsies.

Reflection over the observations made along these lines shows us that many of the symptoms of so-called "indigestion" are really symptoms of definite pathologic conditions. In this statement I am sure the surgeons will concur.

Anatomically we recognize the organs belonging in the middle zone of the trunk, and we have come to recognize that one or more of these well-known organs may change their location within this zone, or even depart from it; that the viscera of the upper zone of the trunk, the thorax, may so descend, without entering the abdominal cavity, as to displace to an extent these middle zone viscera; while the viscera of the lower zone of the trunk may so ascend as to form part of the contents of this middle zone, within the abdominal cavity, altering more or less the locations and relations of the organs belonging there.

We have further learned, and most forcibly too, that this middle zone of the trunk, and especially that portion of it which we call the epigastrium, acts as a reflex alarm center for the whole body; and definite evidence exists that pathologic conditions causing symptoms referred to this region may be found in any organ or tissue of the body; but it is especially liable to be found in the viscera lying in the abdomen.

Hence, in attempting to locate a pathological condition causing symptoms in the middle trunk zone, we must try to exclude (1) All causes lying entirely outside of the abdomen—for example, tuberculosis, tabes, anæmia, all forms of toxemia, arteriosclerosis, lesions of the pelvic, thoracic, or cerebral organs, etc. (2) All causes lying anywhere within the abdomen in a viscus normally belonging outside the upper abdomen or middle trunk zone—remembering that some of these outside viscera may be displaced upward into this zone; for example, affections of the appendix, coecum, or segments of the colon. (3) We should exclude all causes lying in the walls of the abdomen, which latter form the main defense of the viscera against external trauma, and against dislocation and injury by gravity, traction, etc.

We thus arrive at the viscera normally belonging in the upper abdomen or middle trunk zone, remembering that these viscera may be displaced within the limits of this zone, or partially or entirely outside of its limits. For example the stomach may be found to be displaced as a whole; the body may be displaced, the pylorus remaining in normal position; or one or both curvatures may be displaced. Again, the gall bladder may be found misplaced upward or downward, or it may be adherent to any of the viscera which it meets in its perigrinations. Again, the kidneys, especially the right, may be found anywhere between their normal location and nearly any point in the pelvis.

Coming to a diagnosis with this anatomical, physio-pathological and clinical knowledge in mind, the first step will be to exclude all causes coming under heading (1), viz, causes outside of the abdomen. In some cases this is easy; in others there are presented some of the most obscure problems in diagnosis. In all cases, however, no matter how clear may be the presumption that a sufficient cause exists elsewhere in the body, the diagnosis should not be considered established till affections of the abdominal wall and of the middle zone viscera are excluded.

The question of incompetence of the abdominal walls is of importance, for in my observation this one factor is capable of producing such changes in the abdominal

viscera as develop the conditions which logically underlie the development of the common affections of these viscera.

In studying the upper abdominal organs, it must always be remembered that they may be displaced within the limits of this zone, or that they may be displaced partially or entirely outside its limits; and also that no matter where they wander, their ultimate proximal attachments and their afferent and efferent nerves are still derived from the original sources in the upper abdomen. Hence, in both increased and decreased mobility of these, as well as of the other abdominal viscera, traction, kinking and torsion on and of the viscera, themselves, must be considered; and the effects of the traction, which may be exerted through the attachments to the related viscera.

The subjective manifestations of this visceral traction, accompanied as it may sometimes be by kinking and torsion, are not easily proved up to the limits of pronounced obstruction; but their existence can not be doubted by the thoughtful student, when one remembers the demonstrated effects of such conditions elsewhere; and it is from this ill-defined and heterogeneous mass of symptoms of so-called "indigestion" that it is our endeavor to evolve an intelligent diagnosis.

Given an incompetent and, hence, displaced abdominal wall, we are necessarily led to diagnose more or less displacement of some of the abdominal viscera, with the possibility of already begun traction and its attendant evils. And when some of the symptoms mentioned disappear, as for instance when the effects of gravity are antagonized—either by placing the patient in the recumbent or somewhat inverted position, or by increasing or supplementing the supporting power of the abdominal walls by external methods—then these symptoms may be logically interpreted as an outward expression of visceral displacement.

And, furthermore, when this relation between abdominal incompetence and visceral displacement, with traction, kinking and torsion in the perspective is borne in mind, and when we remember the demonstrated tissue changes elsewhere as the result of such traction, kinking and torsion, the reflection is forced upon us that some of the definite lesions of the upper abdominal viscera, such as atony, motor insufficiency, dilatation and ulcer of the stomach, lesions of the duodenum and gall bladder, etc., are the indirect or remote effects of such traction, kinking or torsion.

To see, as I have occasionally seen, varied symptoms of indigestion, mental depression, and bodily ineptitude disappear almost like "the figment of a vision," after a flabby and incompetent abdominal wall has been "jacked up," as it were, by a snug adhesive abdominal supporter, causes me to believe that in many instances we have not given the subject of visceral displacement enough importance.

Lest I be misunderstood, and at the risk of repetition, I wish to summarize as follows:

(1) Symptoms of so-called indigestion group themselves as sensory and motor phenomena referred to the abdomen, but especially to upper abdomen or middle zone of the trunk.

(2) From time immemorial the diagnosis of "indigestion" has led to the treatment of these phenomena by efforts to increase the digestibility of foods and to increase and conserve the digestive power of the patient. These methods have been successful in many instances, but failures have also been numerous.

(3) Observations made in laboratory, by the Roentgen ray, and of animal experimentation, corrected and enlarged by clinical observation and surgery, have explained many of these successes and failures; and have raised a presumption that many of the symptoms of so-called "indigestion" are symptoms of definite pathological lesions—and not simply functional manifestations.

(4) We must constantly bear in mind the possibility of displacement of the viscera in

the middle zone of the trunk, or those outside of it.

(5) Clinical and physio-pathological observation teaches us that this middle zone of the trunk and especially that portion called the epigastrium acts as a reflex alarm center for the whole body, and that a pathological condition in any organ or tissue of the body may set up symptoms referable to this region.

(6) In attempting to locate a pathological condition causing symptoms in the upper abdomen, errors are most likely to be avoided by first excluding all causes lying entirely outside of the abdomen.

(7) Next affections of the abdominal wall and abdominal viscera should be excluded.

(8) The question of incompetence of the abdominal wall is of high importance, for in my observation this one factor is capable of producing such changes in the abdominal viscera as develop the conditions which logically underlie the common affections of these viscera.

(9) No matter where the viscera are displaced, their ultimate proximal attachments and their afferent and efferent vessels and nerves are still derived from their original sources in the upper abdomen.

(10) Whenever the abdominal viscera are displaced, traction, with or without kinking and torsion, can not be excluded, and the pathologic effects of such traction, kinking and torsion have been abundantly demonstrated elsewhere in the body.

(11) In the light of the foregoing, we should give due weight to possible primary or remote effects brought about by misplaced viscera.

These remarks, I trust, will give my hearers some food for thought, when making a diagnosis of a patient complaining of indigestion.

The hardships entailed by the increased cost of food is to be deplored, yet the agitation that has resulted from it will perhaps in the end make for the good of the human race.—*Southern Medical Journal.*

COLLE'S FRACTURE.*

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By Colle's fracture is known the fracture of the lower end of the radius, occurring within one inch above the carpal extremity, but rather loosely used to cover all fractures of the lower end of radius.

To take up all these would take too much of your time, and I do not think it was intended to describe more than the typical fracture as described by Colle in his masterly essay in 1814.

This fracture arises very rarely from direct but almost always from indirect violence, especially from dorsal flexion of the hand caused by a fall on its palmar surface, the force impinging upward against the hand and forearm; a direct blow by any blunt instrument, especially the handle connected with the gasoline engine or the kick may violently twist the hand backward and cause same (chauffeur's fracture).

In a Colle's fracture the radius always breaks from below and in front upward and backward. The lower fragment is displaced backward upon the upper fragment (silver fork deformity), and there is usually some angulation. The fragments are sometimes impacted, or the fracture is an incomplete one. Comminuted fractures are rare. Fissures are sometimes formed which extend into the joint.

One must not omit to look for possible complicating lesions as fractures of the styloid process of ulnar, carpal fracture, etc.

The internal lateral ligament attached to the ulnar styloid may be torn away. The anterior radio-ulnar ligaments, as well as the posterior, are frequently more or less torn. This is clinically obvious from the frequency of the associated forward displacement of ulnar. The triangular fibrocartilage which runs from the base of the ulnar styloid to the edge of the radial articulating surface may be variously torn. This

*Read before the Atlantic Coast Line Surgeons' Association, at Savannah, Ga., October 20, 1915.

seems, from the dissections, to be a common lesion and must necessarily occur if there is extreme ulnar displacement.

The stripping up of the periosteum, especially on the posterior surface, occurs also in these fractures.

Injuries to the vessels are rare, and to the nerves uncommon and are limited to stretching the ulnar nerve over the head of the ulnar, but this I believe rarely occurs.

Compound Colle's are rare, but we do meet with cases in which there is extensive tearing of soft parts communicating with the fracture, in which the progress is mainly dependent on repair of nerve and tendon; and the bone lesion as long as aseptic is of secondary importance.

The frequency of infection is a question, as the X-ray does not help us any, at any rate, one that offers much resistance to reduction is uncommon. There is some hemmorhage outside of the tendon sheath, but most of the swelling is a simple effusion.

There are no adhesions if proper treatment has taken place. The first and most important part in the treatment of a Colle's fracture is early and complete reduction. This should be done, not by pulling, but by manipulation—by hyperextension.

Grasp the upper and lower fragments with the thumb and forefingers of the two hands, bend the lower fragment backward until it is entirely free, then push it into place with the thumbs and let the hand fall into its normal position.

If the fracture is completely reduced, it will remain in position, and there will be no after pain. If there is pain the fracture is not reduced properly. I use complete anæsthesia in all cases, to make sure of diagnosis and relief of pain in reduction.

The next step is to take two X-ray plates, one anterio-posterior and a lateral view to see if the bones are in perfect alignment; if only an anterior plate is taken, you will often miss a poor position.

Many different kinds of splints have been used; the Bond, the Levis, the Gordon, Nelaton's postal splint, Roser's posterior splint, molded splints, plaster of paris, adhesive plaster, etc. The simple straight splints with properly adjusted pads as described by Scudder have been very satisfactory in my hands. At first I use two splints, removing them at least every three days to impact the arm. Gentle massage is commenced the second week, also passive and active movements of the finger and wrist.

After the first week I usually employ only one splint, the posterior, with a small anterior pad over seat of fracture. During the second or third week the splint is shortened, and after the fourth week the wrist may be supported by simple bandage and the fingers and hand may be used. The hand should be adducted and the ulna padded anteriorly. The best material to be used in making these wooden splints is the thin pine wood used in making orange boxes.

The fragment, briefly summed up, consists of:

1. Reduction by manipulation, not pulling.
2. X-ray, anterio-posterior and lateral views.
3. Splints and early massage and active and passive motion.

DIABETES MELLITUS.*

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From the days of Claude Bernard, and even before, medical literature has been filled with theories and speculation as to the causation of diabetes. We had the theory of traumatism, since abandoned. Hyperalimentation, emotional stress, heredity, toxic effects of drugs, constitutional disease, dissipation, disease of the liver, and organic lesions of the pancreas.

A very recent one is the polyglandular theory; that is, a loss of balance of the secretions of the various ductless glands acting

*Read before the West Florida and South Alabama Medical Association, at Pensacola, October 26, 1916.

reflexly upon the functions of the pancreas. The focal infection theory of Rosenheim has been cited as a causative factor as it has been for almost everything else.

Experimentally the greater part of the pancreas can be removed without any change being noted. The pancreatic duct can be ligated or a fistula can be made, allowing pancreatic secretion to be discharged externally, as Pavloff has shown, without producing diabetes. Pancreatitis, sarcoma or carcinoma of pancreas does not necessarily cause diabetes. The only constant lesions found in this disease are certain changes in the Island of Langerhans. Whether this is a cause or an effect, no one knows.

We are told then that diabetes is due to a disturbance of some internal secretion of the pancreas. They are pleased to call it a reflex symptom-complex, whatever that is. We know that there is a loss of the power of assimilating carbohydrates; a disturbance of sugar metabolism. As regards the cause of diabetes, we know nothing at all.

We observe that a majority of patients are past the age of thirty-five. Obesity is very frequently noted. Diabetics are physically indolent; all that can afford to do so, have acquired the automobile habit. Invariably they are hearty eaters. If their appetite is not up to the average, they create an artificial one by consuming various concoctions having various names. The prohibitionists and purists take tanlac, peruna, cardui or other alcoholic mixtures sailing under different aliases. The worldings take their's straight or mixed. Their food consumption is far in excess of the average allowance, namely 35 calories per kilo of body weight. Usually the diet is lacking in variety, consisting of bread, meat, potatoes, pastry and sweets. They lead a sedentary life, do mental work, whenever they have any mentality, but without indulging in any compensatory physical exercise. Eating has with them become a habit.

The Chinese, Japanese and East Indians eat about 40 to 45 per cent as much as the white race. Their ratio of diabetes, compared to ours, is very small indeed. The increase in labor-saving machinery and the increased food consumption causes, naturally, an increase in the disease. The increased food consumption, physical inactivity and increased expenditure of nervous and emotional energy, as Greely observes, has created a vicious circle.

Diabetes goes hand in hand with prosperity; take as an illustration modern Germany. According to Von Noorden, the death per 100,000 from diabetes in Berlin increased over three hundred per cent in nine years. If we were as careful in our compilation of statistics as are the Germans, I am quite sure that we would show a great if not greater increase. Let us observe conditions in Germany, since the war, to prove our contention. Professor Boas, writing for the *Berliner Klinische Wochenscrhift,* says that after nearly two years of war the decreased consumption of food among the German people is responsible for the decrease of diabetes.

Prevention.

People having a diabetic heredity, or who are of a very nervous temperament, or who are taking on weight too rapidly, should curtail the amount of food, particularly sweets and carbohydrates, avoid worry or excitement as much as possible, and take plenty of open-air exercise. They should consult their physician and have him go over them thoroughly every six months and advise them. If the people would consult their physician more frequently, and follow his advice, they would increase their longevity. They would be healthier, happier and far more efficient.

Treatment.

Fasting and low diet in treatment of diabetes has for a long time been known, but Dr. Allen deserves the credit of proving that dogs could be rendered sugar-free by fasting. He was the first to make the test upon man. Patients are at first placed under observation for forty-eight hours or longer, in order to determine the amount of sugar excreted in each twenty-four hours under

the diet to which they have been accustomed. Also, to examine for acetone and diacetic acid, and boxyhutyric acid. Eating is continued when patients are sugar-free, in severe cases, for twenty-four hours thereafter. The condition being toxemic, even the weak and emaciated patients can undergo the fast without depression or weakening. Patient can go to bed or he can walk about as he chooses. He is given one to two tablespoonfuls of whiskey with a small amount of black coffee every two hours, from 7 a. m. to 7 p. m. This is about eight hundred calories, if the patient receives an ounce of whiskey every two hours. If he objects to whiskey, clear soup or broth may be substituted. Patient may be allowed to drink as much water as he desires. If there is much acidosis, indicated by acetone or diacetic acid in urine, or by a strong acetone odor of breath, give chemically pure sodium bicarbonate every three hours. Attacks of coma are very rare under the Allen method of treatment. If the amount of sugar is under 4 per cent the patient is frequently sugar-free in forty-eight hours. Some cases require five or six days. Two or three cases have been on this treatment for ten days before the urine was sugar-free. This is especially the case where patients are overweight. The excretion of sugar continuing until patient has lost several pounds. If the ammonia excreted goes over sixty grams in twenty-four hours, the indications are that considerable acidosis is present. The sugar-free patients are now put upon vegetables, containing 5 per cent carbohydrates. It is necessary to clean vegetables, cut them up finely and soak in cold water, then strain and place in a large double cheese-cloth tied up, water heated to 150 degrees, this poured off, fresh water is added and water brought to a boil. Boil vegetables three times with three changes of water. This reduces the carbohydrate content to 50 per cent. Patients must be dieted carefully and their tolerance for carbohydrates, fats and proteids exactly determined. Patients must be taught to examine their urine daily for acetone, diacetic acid and sugar. A reappearance of sugar during the course of treatment necessitates another fasting period. A small amount of butter or other fats may be added to diet from the beginning. It is necessary to estimate carefully the amount of carbohydrates in food, do not guess at it. Fifteen grams of carbohydrates is the maximum amount allowed on the first day following the fast. Leave carbohydrates at fifteen grams for two days or more, gradually increase the fats and proteids. Fats do not cause glycosuria, but given in excess, they stimulate metabolism to such a degree that it may cause a return of the trouble. Two hundred grams of the fat is the maximum allowance per diem in the average case. If sugar reappears, starve patient until sugar-free, but upon resuming the diet, reduce the amount of carbohydrates 50 per cent for a day or two. If the case is a severe one, one may have to continue this for a week. In mild cases, restrict diet one day each week, decrease its caloric content 20 per cent or more. Severe cases should have routine fast days. Do not increase carbohydrates and proteids at the same time. Under the Allen treatment, attacks of coma are very rarely observed. Cases of beginning gangrene, carbuncle, pruritus and other skin lesions, commonly observed in diabetes, usually disappear under this treatment. Cases after being under this treatment some time, have undergone surgical operation successfully. Acidosis is rarely observed after cases have been under treatment a few weeks. An excess of proteid will produce glycosuria as an excess of fats will induce ketonuria, hence the amount of fat and proteid consumption must be more carefully regulated than has been thought necessary heretofore. It is impossible, in a brief article like this, to adequately discuss the subject of diet in diabetes. A condensed table showing the relative increase of fats, proteids and carbohydrates for only a short period in a very mild case is given. Also a sample diet list covering a severe case, for a period of ten days, will be given. These tables have been

compiled by Miss Eckman, dietician to the Massachusetts Hospital. In order to treat diabetes after the Allen method, you must think in grams and calories, you must supply patients with a list of food values, a table of household measurements and complete diet list, also a list showing the carbohydrate content of various kinds of vegetables and fruits. A bulletin issued by the United States Department of Agriculture and a small work upon the Allen Treatment of Diabetes by Hill and Eckman of Boston, will give you all the practical information required. The following shows relative increase in food percentages in a very mild case:

First Day.

Carbohydrates	15 grams
Proteids	25 grams
Fats	100 grams
Calories	1000 grams

Second Day.

Carbohydrates	15 grams
Proteids	25 grams
Fats	150 grams
Calories	1360 grams

Third Day.

Carbohydrates	25 grams
Proteids	35 grams
Fats	157 grams
Calories	1600 grams

Fourth Day.

Carbohydrates	35 grams
Proteids	40 grams
Fats	200 grams
Calories	1838 grams

Fifth Day.

Carbohydrates	45 grams
Proteids	50 grams
Fats	200 grams
Calories	2194 grams

Sixth Day.

Carbohydrates	50 grams
Proteids	60 grams
Fats	200 grams
Calories	2347 grams

Diet list in a severe case, in which caloric value is increased much more slowly:

First Day After Fast.

Carbohydrates ..... 15 grams
with small amount of Butter or Olive Oil.

Second Day.

Proteids	10 grams
Fats	7 grams
Carbohydrates	15 grams
Calories	200 grams

BREAKFAST.

String Beans, 120 grams (2½ heaping tablespoonfuls).
Asparagus, 150 grams (3 heaping tablespoonfuls, or 13½ stalks, 4 inches long).
Tea or Coffee, with saccharine.

DINNER.

Celery, 100 grams (6 pieces, 4½ inches long).
Spinach, 135 grams (3 heaping tablespoonfuls).

SUPPER.

Asparagus, 100 grams (2 heaping tablespoonfuls, or 9 stalks, 4 inches long).
Celery, 100 grams (6 pieces, 4½ inches long).
Tea or Coffee, with saccharine, one or two times daily.

Third Day.

Proteids	31 grams
Fats	14 grams
Carbohydrates	17 grams
Calories	327 grams

BREAKFAST.

Egg, 1.
Asparagus, 100 grams (2 heaping tablespoonfuls).
Tomatoes, 100 grams (2 heaping tablespoonfuls).

DINNER.

Chicken, 35 grams (one small helping).
String Beans, 200 grams (4 heaping tablespoonfuls).
Cabbage, 100 grams (2 heaping tablespoonfuls).

SUPPER.

Egg, 1.
Cauliflower, 240 grams (5 heaping tablespoonfuls).

Fourth Day.

Proteids	38 grams
Fat	31 grams
Carbohydrates	19 grams
Calories	530 grams

BREAKFAST.

Egg, 1.
Asparagus, 200 grams (4 tablespoonfuls).

DINNER.

Steak, 100 grams (1 small serving).
Cooked Celery, 200 grams (1 heaping tablespoonful).

SUPPER.

Egg, 1.
Lettuce, 20 grams (2 leaves).
Cucumber, 100 grams (2 heaping tablespoonfuls).
String Beans, 50 grams (1 heaping tablespoonful).

Fifth Day.

Carbohydrates	20 grams
Fats	103 grams
Proteids	40 grams
Calories	1200 grams

BREAKFAST.

Egg, 1.
Spinach, 200 grams (4 heaping tablespoonfuls).
Cream and Butter.

DINNER.

Steak, 50 grams (one small steak).
Cabbage, 100 grams (2 heaping tablespoonfuls).
Tomatoes, 100 grams (2 heaping tablespoonfuls).
Onions, 100 grams (2 heaping tablespoonfuls).
Cream and Butter.

SUPPER.

Scraped Beef Balls, 40 grams (1 1-3 ounces).
Celery, 100 grams (6 stalks, 4½ inches long).
Cream and Butter.

The Cream and Butter allowance for the day:
Butter, 20 grams (2 squares).
Cream, 40 per cent (5 ounces).

Sixth Day.

Proteids	50 grams
Fats	130 grams
Carbohydrates	35 grams
Calories	1557 grams

BREAKFAST.

Orange, 100 grams (a small orange).
Bacon, 50 grams (3 slices, 6 inches long).
Egg, 1.
Spinach, 100 grams (2 heaping tablespoonfuls).
Butter and Cream.

DINNER.

Broth, 180 c.c. (one cup).
Steak, 100 grams (one small serving).
Boiled Onion, 100 grams (2 tablespoonfuls).
Butter and Cream.

SUPPER.

Egg, 1.
Lettuce, 25 grams (3 leaves).
Bread, 20 grams (1 thin slice).
Cream and Butter.
Cream and Butter allowance for the day:
Butter, 25 grams (2½ squares).
Cream, 40 per cent (4 ounces).

Seventh Day.

Proteids	50 grams
Fats	158 grams
Carbohydrates	40 grams
Calories	1830 grams

BREAKFAST.

Bacon, 50 grams (2 slices, 6 inches long).
Bread, 20 grams (1 slice, 3x3½ inches).
Spinach, 100 grams (2 heaping tablespoonfuls).
Cream and Butter.

DINNER.

Broth, 180 c.c. (1 cup).
Steak, 100 grams.
Cabbage, 100 grams.
Lettuce, 100 grams (10 leaves).
Butter and Cream.

SUPPER.

Egg, 1.
Bread, 15 grams (3x3¼ inches).
Boiled Onion, 100 grams (2 heaping tablespoonfuls).
Milk, 4 ounces.
Butter and Milk.
Butter and Cream allowance for the day:
Butter, 50 grams (5 squares).
Cream, 40 per cent (5 ounces).

Eighth Day.

Proteids	60 grams
Carbohydrates	55 grams
Fats	150 grams
Calories	1950 grams

BREAKFAST.

Orange, 100 grams (one small orange).
Bacon, 100 grams (4 slices, 6 inches long).
Egg, 1.
Spinach, 100 grams.
Bread, 25 grams (1 slice, 3x3½ inches).
Butter and Cream.

DINNER.

Broth, 180 c.c.
Steak, 100 grams (one medium serving).
Parsnips, 100 grams (2 heaping tablespoonfuls).
Carrot, 100 grams (2 heaping tablespoonfuls).
Butter and Cream.

SUPPER.

Egg, 1.
Lettuce, 25 grams (3 leaves).
String Beans, 20 grams.
Bread, 25 grams (1 piece, 3x2½ inches).
Spinach, 60 grams.
Cream and Butter.
Cream and Butter allowance per day:
Butter, 25 grams (2½ squares).
Cream, 40 per cent (4 ounces).

Ninth Day.

Proteids	71 grams
Fats	183 grams
Carbohydrates	65 grams
Calories	2257 grams

BREAKFAST.

Bacon, 100 grams (4 slices, 6 inches long).
Egg, 1.
Bread, 20 grams (1 small slice).
Carrot, 100 grams (2 heaping tablespoonfuls).
Butter and Cream.

DINNER.

Broth, 180 c.c. (1 cup).
Roast Lamb, 100 grams (one small serving).
Baked Potatoes, 100 grams (1 medium size).
Lettuce, 100 grams (10 leaves).
Asparagus, 100 grams.
Butter and Cream.

SUPPER.

Eggs, 2.
Cauliflower, 120 grams (2 heaping tablespoonfuls).
Spinach, 100 grams.
Bread, 20 grams (1 slice).
Butter and Cream.
Butter and Cream allowance for the day:
Butter, 25 grams (2½ squares).
Cream, 40 per cent (7 ounces).

Tenth Day.

Proteids	78 grams
Fats	186 grams
Carbohydrates	69 grams
Calories	2328

BREAKFAST.

Bacon, 100 grams (4 slices, 6 inches long).
Eggs, 2.
Bread, 50 grams (2 slices, 3x2½ inches).

DINNER.

Broth, 6 ounces.
Steak, 100 grams.
Turnips, 140 grams (2 heaping tablespoonfuls).
Lettuce, 25 grams (3 leaves).
Bread, 25 grams (1 slice).
Cream and Butter.

SUPPER.

Cold Veal, 50 grams (1 small slice).
Parsnips, 200 grams (4 heaping tablespoonfuls).
String Beans, 100 grams.
Cucumber, 100 grams.
Bread, 25 grams.
Cream and Butter.
Cream and Butter allowance for the day:
Butter, 30 grams (3 squares).
Cream, 40 per cent (7 ounces).

You will observe, on the tenth day, the patient is getting about 2,300 calories, which is enough for the average case. If no relapse occurs and the patient is taking plenty of physical exercise or manual labor, calories may be gradually increased to three thousand per diem.

In a majority of cases, this is quite sufficient.

PROPAGANDA FOR REFORM.

ARSENOBENZOL (PHILADELPHIA POLYCLINIC).—Dr. Schamberg explains that the Dermatologic Laboratory of the Philadelphia Polyclinic availed itself of the opportunity to supply their product when salvarsan was not obtainable. Having so served this purpose in the interest of humanity and the public health, the marketing of their product was discontinued when the German product became again available. The laboratory is not established for commercial purposes and could not afford to become embroiled in patent litigation which would no doubt be instituted by the owners of the salvarsan patent. (*Jour. A. M. A.*, Dec. 9, 1916, p. 1776.)

BROMIN-IODIN COMPOUND.—This preparation was submitted to the Council on Pharmacy and Chemistry with the following formula: "Iodin gr. 1, Bromin gr. 1/4, Phosphorus gr. 1/100, Thymol gr. 2/3, Menthol gr. 2/3, Sterilized Oil fl. dr. 1." According to the promoters Bromin-Iodin Compound is "A Powerful Anti-Tubercular Agent for Hypodermic Use in Pulmonary and Laryngeal Tuberculosis * * *." The Council declared the preparation ineligible for New and Nonofficial Remedies because the "formula" was impossible if it is intended to indicate the composition of Bromin-Iodin Compound; and meaningless if it is intended to indicate the ingredients used in the manufacture; and also because there was no satisfactory evidence for its therapeutic efficiency. (*Jour A. M. A.*, Dec. 23, 1916, p. 1958.)

CASTROX.—Castrox is a castor oil emulsion claimed to contain castor oil 50 per cent, glycerin 10 per cent with water and emulsifying agents. It was said to be prepared by a "unique three-day process with special apparatus and is more than 'just an emulsion.' It is a *mutual* emulsion, for the oil and aqueous solution have been united without 'forcing' * * * ." The Council held Castrox to be an unessential modification of an established article, marketed under a proprietary name and with claims which give a false value to a simple castor-oil emulsion, and therefore not admissible to New and Nonofficial Remedies. (*Jour. A. M. A.*, Dec. 23, 1916, p. 1956.)

DAKIN'S HYPOCHLORITE SOLUTION.—The following procedure is claimed to have superseded the previously published formulas: Stir 200 gm. chlorinated lime into 5,000 c.c. ordinary water and let stand over night. Dissolve 100 gm. anhydrous sodium carbonate and 80 gm. sodium bicarbonate in 5,000 c.c. cold water and pour this into the chlorinated lime mixture, and shake for one minute. After one hour siphon off the clear liquid and filter it through paper. A portion of this must not become red if a little dry phenolphthalein is added to it. (*Jour. A. M. A.*, Dec. 2, 1916, p. 1687.)

IRON CACODYLATE.—While manufacturers appear most ready to take advantage of the present interest in iron cacodylate by offering this in the form of ampules, etc., they have given little help to the A. M. A. Chemical Laboratory toward the establishment of standards for this arsenic compound. Manufacturers are ever ready to sell drugs of all sorts, but in view of the small demand for little used drugs, they can not or will not safeguard the identity and purity of such drugs. (*Jour. A. M. A.*, Nov. 25, 1916, p. 1593.)

LACTEOL.—This appears to be a lactic acid ferment preparation. The advertising material is of the usual extravagant character. The preparation is made in Paris and

since the bacteria lactic acid ferment preparations are short-lived, may be inactive by the time it is used here. (*Jour. A. M. A.*, Dec. 23, 1916, p. 1959.)

MAYR'S WONDERFUL STOMACH REMEDY.—More than a year ago the proprietor of Mayr's Wonderful Stomach Remedy pleaded guilty in the federal court to the charge that the claim that the nostrum was a cure for gallstones, appendicitis and all stomach, liver and intestinal diseases was false and fraudulent. Nearly a year later a placard over the store window of the Mayr establishment the following appears: "Mayr's Wonderful Stomach Remedy is the only known cure for all stomach, liver and intestinal complaints. One dose will prove it." The federal Food and Drugs Act should have its scope extended so that all advertising for a product shall come under the purview of the act. (*Jour. A. M. A.*, Dec. 9, 1916, p. 1774.)

MORE MISBRANDED NOSTRUMS.—The following nostrums were found to be sold with false and fraudulent therapeutic claims: E. K. Thompson's Barosma Compound was found to be a watery-alcoholic solution containing bromid of potassium 3.85 per cent, potassium acetate 2.6 per cent, extract of buchu and sugar 18.4 per cent. It was sold under the inferential claim that it was a cure for Bright's disease, inflammation of the kidneys, etc. Sayman's Vegetable Liniment Compound, sold for the treatment of deafness, fever, ague and even sore nipples, toothache and chilblains, was found to be a hydro-alcoholic solution of camphor, chloroform, capsicum, oil sassafras, ammonia and plant extractive, and probably turpentine. Knorr's Genuine Hien Fong Essence or Green Drops was found to contain 69.72 per cent alcohol (by volume), 0.35 per cent ether (by volume), 0.28 grams nonvolatile matter per 100 cc., flavored with oil of spearmint. It was said to be an excellent remedy for diseases of the stomach and bowels and many other ailments. (*Jour. A.* M. A., Dec. 9, 1916, p. 1775.)

MORE MISBRANDED NOSTRUMS.—The following "patent medicines" have been held misbranded under the Federal Food and Drugs Act, chiefly because of false and unwarranted therapeutic claims. Mrs. Winslow's Soothing Syrup, declared to contain 5 per cent alcohol and 1/10 grain morphine sulphate to each fluidounce together with oil of aniseed, carraway, coriander, jalap, senna and sugar syrup (as now marketed the preparation contains no opiate). Johnson's Iodized Extract of Sarsaparilla found to be a simple vegetable preparation with only an appreciable amount of potassium iodide. Matusow's Nulfey contains 51.8 per cent sodium salicylate. An alkaloid, probably berberine, and emodin were present. (*Jour. A. M. A.*, Dec. 16, 1916, p. 1865.)

MORE MISBRANDED NOSTRUMS.—The following "patent medicines" were found misbranded under the Food and Drugs Act in the main because unwarranted and false therapeutic claims were made for them: Smith's Kidney Remedy, found to be a hydro-alcoholic solution containing glycerin, potassium acetate, trace of alkaloid, laxative extractive plant drugs. Hill's Syrup of Tar, Cod-Liver Oil Extract and Menthol, essentially a sweetened hydro-alcoholic solution containing small amounts of chloroform, menthol, morphine and tar; ipecac, tolu, cannabis indica and wild cherry were indicated; cod-liver oil was absent. Mag-No Brand Liniment, essentially an aqueous solution of ammonia, flavored with sassafras oil and colored. Radway's Sarsaparillian, essentially a watery-alcoholic solution of sugar, potassium iodid, arsenic, a trace of alkaloids and certain plant substances. Dr. Shoop's Diphtheria Remedy, consisting of sugar syrup with a very small amount of soluble chromate, glycerin and salicylic acid. Dr. Shoop's Preventics, a tablet containing a small amount of unidentified vegetable extractive matter. Hot Porous Plaster, essentially a capsicum plaster. N. H. Down's Vegetable Balsamic Elixir, a sweetened solution of opium, ipecac, glycerin, and small amounts of calcium, potassium, and iron compounds, flavored with anise. Kopp's

Baby's Friend, containing 8.5 per cent alcohol and 1/8 grain morphin sulphate to the fluidounce. Prof. Hoff's Prescription, formerly known as Hoff's Consumption Cure. Dr. Haynes' Arabian Balsam, apparently a mixture of cotton-seed oil, turpentine and oil of cumin. Russia Salve, sold as a cure for conditions ranging from "cancers" to "mosquito bites" and from "swelled nose" to "ingrowing nails." (*Jour. A. M. A.*, Dec. 23, 1916, p. 1956-1957.)

O-Do-Cure.—The A. M. A. Chemical Laboratory reports that a solution essentially similar to this "prespiration remedy" may be made thus: salicylic acid 1 grain, boric acid 30 grains, alcohol 3 fluidrachms, perfume sufficient, water to make 1 fluidounce. (*Jour. A. M. A.*, Dec. 30, 1916, p. 2030.)

Plant Juice.—"Plant Juice" is a "patent medicine" which is said to yield an annual profit of $90,000 to Col. Frank A. Dillingham of Cincinnati. The Milwaukee Health Department reports that, in addition to 20 per cent alcohol, "Plant Juice" contains aloes, licorice with possibly a little cascara sagrada or senna. This nostrum is advertised as "beneficial" in anemic conditions, nervousness, sickness and debility, headache, backache, dyspepsia and various other ills. (*Jour. A. M. A.*, Dec. 2, 1916, p. 1685.)

Sodium Cacodylate in Syphilis.—While Nichols has shown that sodium cacodylate is worthless as a spirocheticide, it is still being used in the treatment of syphilis, and it is the essential constituent of venarsen, a proprietary syphilis remedy. As a result of extensive clinical trials, Dr. H. N. Cole concluded that sodium cacodylate has no spirocheticidal value. At the utmost it has perhaps a slight action on the papular and nodular syphilids, but in no case is this effect to be compared with that produced by mercury and potassium iodid. In cases of syphilis with mucous patches sodium cacodylate is worse than useless. (*Jour. A. M. A.*, Dec. 30, 1916, p. 2012.)

Sulfo-Selene—Walker. — The *New York Tribune* explains that it was caught "napping" when it gave space to a discussion of Dr. C. H. Walker's cancer treatment, "Sulfo-Selene." It explains that, while there is probably no single false statement in the published interview self-sought by Dr. Walker, the impression sought to be conveyed that Sulfo-Selene will cure cancer, rests on no such foundation of evidence as to justify a reputable and responsible physician in setting it forth in the public prints. The *Tribune* explains that Dr. Walker's preparation has failed to obtain that recognition which would have given it a scientific status, namely, recognition by the Council on Pharmacy and Chemistry. (*Jour. A. M. A.*, Dec. 16, 1916, p. 1864.)

Toxinol.—Toxinol is a "syphilis remedy" marketed by the Hawes Chemical Co., Louisville, Ky. It is a shotgun mixture characteristic of the days when syphilis was treated with haphazard mixtures of iodides, mercury and vegetable "alteratives." The Council on Pharmacy and Chemistry has examined Toxinol and the claims made for it, and reports that Toxinol is ineligible for New and Nonofficial Remedies because it is an irrational combination of drugs, marketed under a name that is non-descriptive of its composition and with unwarranted and misleading claims. (*Jour. A. M. A.*, Dec. 2, 1916, p. 1687.)

Toxicity of Salvarsan.—From the reports of O. S. Ormsby and J. H. Mitchell, A. M. Moody and J. D. Ellis in *The Journal A. M. A.*, Dec. 9, 1916, it would appear that some of the salvarsan recently on the market has been unusually toxic. (*Jour. A. M. A.*, Dec. 9, 1916, p. 1764.)

Tanret's Pelletierine. — The exact composition of Tanret's Pelletierine is not known, but is believed to be similar to the pelletierine tannate of the U. S. P. This is said to be a variable mixture of the tannates of four alkaloids of pomegranates. As only two of the alkaloids have tenifuge properties the activity of the different preparations varies with the proportion of these alkaloids which are present. (*Jour. A. M. A.*, Dec. 30, 1916, p. 2030.)

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Next Meeting — Atlantic Beach — May, 1917

THE ATLANTIC BEACH MEETING.

The Executive Committee has selected May 18-19 as the date for the forty-fourth annual session of the Florida Medical Association. It will be noticed that the dates selected fall on Friday and Saturday, it being the purpose to provide a week-end vacation for the profession of the State. The two-day session will be entirely taken up with scientific work and what business may properly come before the Association. The evening of the second day will be set aside for some form of entertainment. A preliminary program will appear in an early number of THE JOURNAL. The Atlantic Beach Hotel is prepared to give an attractive rate to all those desirous of remaining over Sunday at this popular seashore resort, and it is earnestly hoped that all will remain over, taking advantage of this opportunity of combining business with pleasure. More anon.

THE DUTIES OF THE COUNTY SECRETARIES.

The Secretaries of the various County Medical Societies making up the State organization have recently been addressed and blanks furnished them upon which to make their annual report to the Association. It is our belief that in most instances the activities of the local Secretary are directly reflected by the organization he represents. An inertia in a local society, while not always, may generally be transformed to an activity by that organization provided the Secretary gets busy with his members. The county unit is the meat of the nut of organized medicine. The Secretary is "it" in the county units. Mr. Secretaries—Get busy! It is proposed that a roll of honor be published in THE JOURNAL each month, all county organizations having paid their full membership assessment being placed on this roll. Last year but eight or nine counties in the entire State would have found themselves on this list. A little effort

on the part of the secretary would increase this number nearly threefold. Mr. Member —Help your Secretary to place your county on the first roll of honor by paying him your dues right now.

WHAT YOUR STATIONERY SPEAKS FOR.

In our profession there are few things which count more as an index of character than the stationery one uses. It will show almost to a certainty as to whether a man is neat, careful, modest or brazen by the size and style of the type or the size, shape and quality of the paper. Doctors especially can well afford to have neat stationery. Good paper and small plain type or an engraved plate with small letters is best. A lot of information is undesirable on one's letterhead. The most refined taste calls for only the name and address. If one has a specialty it may be mentioned in one word as "Surgery," "Ophthalmologist," "Internist," etc. Credit has often been safely extended by firms knowing nothing of an individual further than this. They will take the risk and usually experienced men can do so safely on the style and character of a letter. The experience of a physician in advertising for an assistant in a sanitarium will illustrate the point very well. In the replies of fifty or a hundred letters they were first assorted and selections made of the most likely applicants from the style of the letter, the letter-head, the quality of paper used, the use of English and composition. The expression was considered, *i. e.*, short, concise and clear. A great number could be eliminated at once. Some were written with a lead pencil or blots of ink were in evidence. Some well enough written but on a very inferior or inappropriate quality of paper. Those on "loud" letter-heads were not considered at all. Those written on good quality of paper of proper shape with neat letter-heads were but few in number, and the selection usually could be quickly and safely made with but little correspondence to follow. In this correspondence the applicant's photograph was called for and with rare exceptions it would speak for the person writing the letter.

MEDICAL PREPAREDNESS.

While the severance of diplomatic relations with Germany does not necessarily mean war, it unquestionably brings us, as a nation, to a point at which a state of war with a European nation must be considered as a possibility. As usual in times of general excitement, many of our newspapers are filled with rumors, as many of our citizens are filled with hysteria. In emergencies, physicians, of all men, are expected to keep cool and to be able to act efficiently. This is a duty of the profession as a whole, as well as of individuals. If war comes, the role of the medical profession will be an important and responsible one. That these responsibilities will be assumed without hesitation and borne with credit is beyond question. In case of conflict with the Central Powers, it is difficult to see, under present conditions, how land forces could be employed, at least in the near future. Service would probably be limited to work on shipboard. For this, the Bureau of Medicine and Surgery of the Navy has its regular corps, as well as the Navy Medical Reserve. Whatever may be the outcome of the present situation, the medical profession, and especially the younger men, should understand that the Army Medical Corps needs more men and that the navy is anxious to secure additional medical officers. Those physicians not needed or adapted to regular military service should at least affiliate themselves definitely with the national Red Cross, through its various local branches, and prepare themselves, either now or for the future, to be of service.—*Journal of the American Medical Association,* February 10, 1917.

COMPULSORY HEALTH INSURANCE.

The United States is practically the only large industrial nation which has not adopted compulsory health insurance. A number of states have enacted workmen's compensation laws, which may be regarded as the entering wedge; this will undoubtedly be followed by similar legislation which will provide compensation for medical care during disability from sickness, and include not only the breadwinner but also the dependent members of the family. While the medical profession has a very practical interest in the subject, because of the duties and responsibilities assigned to it in the carrying out of these laws, few physicians have recognized its importance. The mass of the members of our profession seem not to have awakened to the fact that the interests of the public, as well as their own, require them to become informed on the question and to take an intelligent, active part in framing legislation which is already being considered in a number of states. In *The Journal*, May 6, 1916, it was announced that a committee under the chairmanship of Dr. Alexander Lambert, chairman of the Judicial Council, had been appointed to compile information in regard to social insurance and the relation of physicians thereto. This committee submitted a report to the House of Delegates at the Detroit session. The American Association for Labor Legislation prepared a preliminary draft of a model bill on social insurance in which it has properly left blank the section providing for medical services, while asking the assistance of the medical profession to work out this phase of the problem. In *The Journal of the American Medical Association*, Jan. 27, 1917, p. 257, is a paper on "Health Insurance and the Medical Profession" by Dr. Lambert, in which suggestions are made for defining the conditions for medical service under social insurance. Like the model bill of the American Association for Labor Legislation, Dr. Lambert's paper is not to be regarded as the final word on the question, but as suggesting a basis for discussing the conditions under which medical services may be rendered in the proposed scheme of health insurance. *The Journal* again emphasizes that the time for the medical profession to interest itself in social insurance legislation is now, while legislation is in a formative stage.—*Journal of the American Medical Association*, Jan. 27, 1917.

SCIENCE IN THE "MOVIES."

In these days of realism in motion pictures, with the attention to details that is evident to all who patronize the "movies," it is strange that the directors do not take more pains with their scientific films.

One, possibly the most careful of directors as to details, now with the Triangle Fine Arts Corporation, has recently released a film, "The Microscope Mystery," in which the lack of detail all but makes a farce of an otherwise excellent film, with a good story and a better moral.

To be specific, at no time does the leading character use his microscope correctly. It is placed in the corner of the room where there is no light, and in one "close up" it can be seen that the mirror is not adjusted. To be perfectly frank, neither the doctor nor the girl ever saw or could possibly see anything through it. In the final denouement of the story the doctor discovers the bacilli of tuberculosis after growing a culture for a few hours—biologically impossible, since these bacilli do not grow on artificial media in less than three weeks to six months. The bacilli found are flashed on the screen; they are not tubercle bacilli.

The "leads" in regard to the magnification were correct, possibly, if they referred to size on the screen; palpably incorrect if they refer to the actual magnification of the object as seen by the actors through the microscope. The highest power used in bacteriological work is 1,000 diameter, not 156,000 diameters.

Now for the remedy—a few minutes' consultation with a bacteriologist could have straightened that out, and in as much as the story hinges on the microscope it would have paid and paid well. A much more probable denouement could have been found using a different organism and a slightly different technique which would have been much more probable, quite a bit more dramatic and just as certain.

I want to add just a word of praise: All of the doctors in the piece were way above the average. Most "movie" doctors are jokes; these decidedly were not, so that they are entitled to many thanks from a long suffering public for their work.

This criticism may seem harsh; maybe the details criticized are of minor importance, but it costs no more to have correct details than incorrect, so why not be correct, rather than spoil a most excellent piece of work with untrue scientific facts.

SELF-RISING FLOUR.

The recent inquiries on the part of many physicians and scientific men all over the country in regard to the food value and wholesomeness of self-rising flour have led to much discussion among the members of the medical fraternity in reference to this class of food.

There is no question but that self-rising flour should come under the same laws as similar mixed products. It should certainly be labeled so as to show the ingredients of which it is composed, and should also be labeled "bleached" whenever bleached flour is used. In this connection it is known that all States prohibit the use of bleached flour, and as nine-tenths of the self-rising flour is made of bleached flour and a cheap leavening agent, prepared flours are certainly in the majority of cases as injurious as bleached flour, one of the ingredients of which it is composed.

A prominent authority in a recent article in the *Chicago Daily News* makes the following statement:

"Flour is bleached for no other purpose than to conceal inferiority by making it appear of better quality than it is. Most sanitary codes provide against the staining, coloring, coating or bleaching of any food for the purpose of concealing inferiority. Under such provisions it becomes an easy matter for the corporation counsel of any American city to bring action against bleached flour which is whitened through the treatment known as the Alsop process, or by any other artificial process. The Alsop process takes low grade flour and by the action of nitrogen peroxide makes it resemble flour that demands the higher market price. Such whitened flour contains nitrite reacting material, the detection of which is not difficult.

"It is true that the bleaching of flour represents but a single step in the downward direction which the manufacture of commercialized foodstuffs in the United States is constantly taking. Not satisfied with robbing the wheat of its most indispensable mineral elements, millers have still further debauched their industry by resorting to electrolytical chemistry in their efforts to fool the people.

"Bleached flour may have nothing to do with infant mortality. It does, however, have much to do with sham, fraud, making believe, and as such it must be treated."

It is evident, therefore, that the flour base of many self-rising flours is made of the cheapest grades, being either bleached flour or the second and third grades of flour, and there is no question either but that the leavening agent employed is in the majority of cases the cheapest kind. For instance, the following is quoted from the *New York Journal of Commerce* in reporting the recent hearing of the joint committee on food standards:

"It came out that a great deal of sulphate of lime is used in cheap baking powder, especially so in self-rising flour, sometimes running as high as 25 per cent. The matter was brought forth that cheap grades of flour are used in such compounds."

In a recent article bearing on the causes of pellegra, Dr. W. A. Evans makes the statement that he has discovered that one source of this disease is the constant eating of sour milk and soda biscuits. The reason for this is that an excess of soda is generally used and the vitimines of the food are destroyed. It is the lack of vitimines that results in this dread disease.

This is an argment why the housewife should be encouraged to use pure, plain flour and pure, wholesome baking powder which is perfectly manufactured so that perfect neutralization takes place in the baking.

The better class of people in the South recognize the fact that self-rising flour has little food value, and represents little if any saving in time. They, therefore, in the great majority of cases use straight baking powder and flour, but it is among the more ignorant classes that the great consumption of prepared flours occurs. These people do not have the means of knowing the value of the food they eat, and therefore they are the greatest to suffer.

We believe the duty of educating the people to food values lies with the merchants of the State, and also with the physicians. The merchant specializes in foods. He knows quality when he sees it. He should only recommend, endorse and sell those foods which are guaranteed to be perfectly pure and wholesome. Furthermore, laws preventing the sale of improper goods should be enacted.

Likewise, the doctors of this State, aware of the fact that so many diseases are the result of malnutrition and improper feeding, should take up education work along these lines in order to help the people of our State in the judicious selection of foods.

McINTIRE PRIZE.

Last year Dr. Charles McIntire resigned the secretaryship of the American Academy of Medicine after twenty-five years of faithful service. In appreciative commemoration the American Academy of Medicine decided to raise a fund, the income of which should be expended in accordance with Dr. McIntire's suggestions. As a consequence the Academy now announces two prize offers, the prizes to be awarded at the annual meetings for 1918 and 1921, respectively.

The subject for 1918 is "The Principles Governing the Physician's Compensation in the Various Forms of Social Insurance." The members of the Committee to decide the relative value of the essays awarding this prize are—Dr. John L. Heffron, Dean of the College of Medicine, Syracuse University; Dr. Reuben Peterson, Professor of Obstetrics and Diseases of Women, University of Michigan, and Dr. John Staige Davis, Professor of Pediatrics and Practice of Medicine, University of Virginia.

The subject for 1921 is "What Effect Has Child Labor on the Growth of the Body?" The members of the Committee to award this prize are—Dr. Thomas S. Arbuthnot, Dean of the Medical School of the University of Pittsburg; Dr. Winfield Scott Hall, Professor of Physiology, Northwestern University, and Dr. James C. Wilson, Emeritus Professor, Practice of Medicine and of Clinical Medicine, Jefferson Medical College.

The conditions of the contests are:

(1) The essays are to be typewritten and in English, and the contests are to be open to everyone.

(2) Essays must contain not less than 5,000 or more than 20,000 words, exclusive of tables. They must be original and not previously published.

(3) Essays must not be signed with the true name of the writer, but are to be identified by a nom de plume or distinctive device. All essays are to reach the Secretary of the Academy on or before January 1st of the years for which the prizes are offered and are to be accompanied by a sealed envelope marked on the outside with the fictitious name or device assumed by the writer and to contain his true name inside.

(4) Each competitor must furnish four copies of his competitive essay.

(5) The envelope containing the name of the author of the winning essay will be opened by Dr. McIntire, or in his absence by the presiding officer at the annual meeting and the name of the successful contestant announced by him.

(6) The prize in 1918 for the best essay submitted according to these conditions will be $100.00; that of 1921 will be $250.00.

(7) In case there are several essays of especial merit, after awarding the prize to the best, special mention of the others will be made and both the prize essay and those receiving special mention are to become at once the property of the Academy, probably to be published in the *Journal of Sociologic Medicine*. Essays not receiving a prize or special mention will be returned to the authors on application.

(8) The American Academy of Medicine reserves the right to decline to give the prize if none of the essays are of sufficient value.

The present officers of the American Academy of Medicine are: George A. Hare, M. D., Fresno, Cal., President; J. E. Tuckerman, M. D., Cleveland, President-Elect; Charles McIntire, M. D., Easton, Pa., Treasurer, and Thomas Wray Grayson, M. D., 1101 Westinghouse Building, Pittsburgh, Pa., Secretary.

Cancer Department

"In the early treatment of cancer lies the hope of cure."

AMERICAN SOCIETY FOR THE CONTROL OF CANCER

"IS CANCER EITHER CONTAGIOUS OR HEREDITARY?"

Abstract of an address delivered by Mr. Arthur Hunter, President of the Actuarial Society of America and Actuary of the New York Life Insurance Company, at the Tenth Annual Meeting of the Association of Life Insurance Presidents, New York, December 15, 1916.

Cancer appears to be neither hereditary nor contagious, according to an investigation of life insurance statistics recently completed by Arthur Hunter, President of the Actuarial Society of America. Utilizing the large mass of vital statistics recorded with special accuracy and detail by six of the largest American life insurance companies which cooperated with many others in the recent medico-actuarial mortality investigation, Mr. Hunter reports that the cancer rate among those in close attendance upon sufferers from this disease is only normal and that the same normal rate prevails among those whose parents or grandparents died of cancer. Summarizing this investigation in the words with which he concludes his address, "the statistics show that a man or a woman, one or both of whose parents died from cancer, is no more likely to die from that disease than those whose family history was free from that blemish; strong proof should be presented in the future to justify asking the public to take any other point of view. Men and women who are in anxiety of mind on account of the appearance of cancer in their ancestry or immediate family may dismiss such anxieties, as there is no statistical evidence at the present time that the disease of cancer is transmitted by inheritance in mankind."

Pointing out that cancer caused 80,000 deaths in 1915 and nearly three-quarters of a million deaths among the inhabitants of the United States during the last decade, Mr. Hunter referred to the cooperation of life insurance companies with the American Society for the Control of Cancer in special statistical investigations and to the importance of an organized crusade against this disease, which, during the last ten years, has taken a toll of life equal to the entire population in 1910 of Maine or Florida. "It should not be assumed," said Mr. Hunter, "that

cancer is a disease of old age and that accordingly its ravages do not constitute a serious economic loss to the country. About one-half (or 40,000 of the deaths in 1915) were among persons under 60 years of age, and if we assume that each of these individuals was worth potentially $2,500, the community was poorer by $100,000,000 through their deaths, aside from the cost of attending to them in their sickness. The economic loss, however, is a small matter compared with the pain of those who succumb and the sorrow of those who must watch their relatives die from cancer."

Referring to the interest which a disease so widely prevalent naturally arouses as to whether it is contagious or hereditary, either by direct transmission or predisposition, Mr. Hunter continued:

"Such questions must be in the minds of hundreds of thousands of the relatives of persons who have died within the last few years from this disease and of the others who are suffering from it. I have found through direct information from relatives of cancer victims and through association with practicing physicians that there is a great deal of apprehension and foreboding —a fear that it may have been inherited or that it may develop through contagion. Unhappiness among some of the relatives is due to the mystery connected with the disease. Their fears are the result of impressions derived from individual cases where death from cancer has been attributed to a previous death of another member of the family. Desultory investigations in the past had led me to feel that there is little to fear from inheritance or contagion even before I undertook the present study with the desire to substitute facts based on a study of groups for impressions based on individual cases."

Contagion.

According to Mr. Hunter "there seems little to support the views that cancer is the result of contagion. If it were, then in a goodly proportion of cases, the wife would be infected by her husband, or *vice versa*. In addition to the evidence heretofore published which seems to prove that there is no such result, I wish to offer some original figures."

"Twenty thousand applications for insurance were reviewed, and it was found that in 488 cases one only of the parents of the applicant was stated to have died from cancer, and in four cases both parents were stated to have died of that disease. Summing up the results, it appears that out of the 492 cases where one or both parents had died of cancer, 43 per cent. of the other parents had died of some other disease, 56 per cent. were living at an average age of 61 and less than 1 per cent. (4 out of 492) had died from cancer. There were accordingly 122 times as many cases in which one parent had died of cancer as of those in which both parents had died of that disease. This clearly indicates that there is very little to fear from contagion as there could hardly be a stronger test than the case of husband and wife. The significant fact in this investigation is that there were only four cases out of the 20,000 applications for insurance in which both parents died of cancer."

Heredity.

"The possibility of heredity," said the speaker, "has generally been studied by experiments on animals. In the case of human beings there has been no previous attempt, so far as I am aware, to investigate the problem in families where there has evidently been a cancer strain, if such a thing exists. In the present investigation, one of the groups consisted of cases in which both of the parents had died from cancer; and in another of the groups, a parent and a brother or a sister of the policyholder had died from that disease. It might be expected, therefore, that if cancer were hereditary, it would be shown very clearly in the family records of these persons but this has not appeared. Approaching the problem from other aspects, several

investigators, notably, Dr. F. L. Hoffman, have come to the conclusion that the factor of human heredity is of little, if any, importance. The fact that some strains of mice can be inoculated with cancer while others appear to be uninoculable, suggests, however, that there may be similar differences in mankind, and that in one race, cancer is more or less inheritable and not at all so transmittable in other races."

After stating his belief that it does not follow that all the same conditions prevail in mankind as in animals, Mr. Hunter described his first investigation of the human material as referring to cases of persons insured in six companies, both parents having died of cancer prior to date of application for insurance. He first ascertained, wherever known, the causes of death of the parents of those who had died of cancer, with the following result:

"Of 472 grandparents of the insured, the cause of death was given in 234 cases of which two were from cancer; the cause of death was stated in 184 of these as 'old age,' the average age at death of which was 82. In 72 of the grandparents the cause of death was not known but the age was given, the average being 62; in 155 cases neither the age nor the cause of death was known. It is reasonable to conclude that if only two died of cancer out of 234 parents of persons who died of cancer that disease is not hereditary."

A further study referred to family records of cases where one parent and one son or daughter had died of cancer. The entire statistics were combined with the result that of 368 grandparents the causes of death of 147 were stated and of these only one died from cancer.

Still another line of inquiry was directed toward the 488 cases (already referred to as the basis of findings regarding contagion), in which one parent of the applicant had died of cancer. It was found that among the sons and daughters of these 488 parents "there were only two deaths from cancer among 810 persons, one of whose parents had died of that disease, all of these 810 persons having lived beyond the age of 40. According to the mortality statistics of the Census Bureau, based on the population of the United States, the number of deaths to be expected above the age of 40 from cancer would be about three."

In order to obtain additional statistics from an entirely different source, Mr. Hunter concluded his series of investigations by examining the records of one of the largest and best hospitals in New York City. Although he found that "the material was not nearly as definite as the data from the life insurance companies," he succeeded in tabulating the family history of 100 patients admitted for cancer. He found that the number of deaths from cancer recorded among the 200 parents of the patients was 5, and among the 400 grandparents only 1, which would represent a low death rate from cancer. "The study of these 100 cases," he concluded, "gives no indication that cancer was transmitted from the parents to the patients who had undergone an operation for cancer."

NEW AND NONOFFICIAL REMEDIES.

ACETYLSALICYLIC ACID. — ACIDUM ACETYLSALICYLICUM — ASPIRIN. — The acetyl derivative of salicylic acid. Dosage: 0.3 to 1.0 gm., repeated once in 3 hours until symptoms of salicylism are noted. It may be dispensed as powders (in wax paper), wafers or capsules.

BARIUM SULPHATE, P. W. R., FOR X-RAY DIAGNOSIS.—A brand complying with the standards for barium sulphate for Roentgenray work—N. N. R. Powers-Weightman-Rosengarten Co., Philadelphia.

BARIUM SULPHATE, MERCK, FOR X-RAY DIAGNOSIS.—A brand complying with the standards for barium sulphate for Roentgenray work—N. N. R. Merck and Company, New York. (*Jour. A. M. A.*, Jan. 13, 1917, p. 121.)

FORMIN TABLETS, 5 GRAINS. — Each tablet contains 5 grains of formin (see New and Nonofficial Remedies, 1916, p. 138). Merck and Co., New York.

FORMIN TABLETS, 7½ GRAINS. — Each tablet contains 7½ grains of formin (see New and Nonofficial Remedies, 1916, p. 138). Merck and Co., New York.

IOCAMFEN.—A liquid obtained by the interaction of iodin 10 parts, phenol 20 parts, and camphor 70 parts, containing about 7.25 per cent free iodin. Iocamfen is said to have the antiseptic and germicidal properties of iodin and also the analgesic, stimulating and antiphlogistic properties of camphor and phenol. It is used in dressing wounds, etc. Iocamfen is also supplied as Iocamfen Ampules, containing 20 minims iocamfen. Schering and Glatz, New York. (*Jour A. M. A.*, Jan. 20, 1917, p. 199.)

MERCURIALIZED SERUM—MULFORD.—The following dosage forms of mercurialized serum-Mulford, described in New and Nonofficial Remedies, 1916, p. 192:

MERCURIALIZED SERUM—MULFORD, No. 5-A.—Each package contains one 8 c.c. graduated sterile glass syringe with sterile needle, containing the equivalent of 0.0055 gm. (1/12 grain) mercuric chloride.

MERCURIALIZED SERUM—MULFORD, No. 5-B.—Each package contains one 8 c.c. graduated sterile glass syringe with sterile needle, containing the equivalent of 0.011 gm. (1/6 grain) mercuric chloride.

MERCURIALIZED SERUM — MULFORD, No. 6-A.—Each package contains ten 8 c.c. graduated sterile glass syringes with sterile needle, each containing the equivalent of 0.0055 gm. (1/12 grain) mercuric chloride.

MERCURIALIZED SERUM—MULFORD, No. 6-B.—Each package contains ten 8 c.c. graduated sterile glass syringes with sterile needle, each containing the equivalent of 0.011 gm. (1/6 grain) mercuric chloride. H. K. Mulford Company, Philadelphia, Pa. (*Jour. A. M. A.*, Dec. 9, 1916, p. 1759.)

PERTUSSIS BACTERIN — MULFORD. — A pertussis bacillus vaccine (see N. N. R., 1916, p. 321). Pertussis Bacterin-Mulford is sold in packages of four syringes containing 50, 100, 200, and 400 million killed Bordet-Gengou bacilli. H. K. Mulford Company, Philadelphia, Pa. (*Jour. A. M. A.*, Dec. 16, 1916, p. 1851.)

NEUTRAL SOLUTION OF CHLORINATED SODA. — SOLUTION CHLORINATED SODA, DAKIN. — SOLUTION CHLORINATED SODA, CARREL-DAKIN.—A chlorinated soda solution, containing 0.43 to 0.48 per cent of available chlorine, free from caustic alkali. It is prepared by treating a suspension of chlorinated lime in water with definite amounts of sodium carbonate and sodium bicarbonate and adjusting the separated clear liquid to the required content of available chlorine. The solution is not reddened by phenolphtahlein. It must be protected from light. The solution has been used for the irrigation of wounds, especially infected war wounds.

THEOBROMINE—MERCK.—A brand complying with the standards for theobromine —N. N. R. Merck and Co., New York.

VERONAL TABLETS, 5 GRAINS. — Each tablet contains 5 grains of veronal (see New and Nonofficial Remedies, 1916, p. 92). Merck and Co., New York. (*Jour. A. M. A.*, Jan. 6, 1917, p. 35.)

UREASE.—An enzyme found in certain beans, fungi and micro-organisms which, in the presence of water, converts urea into ammonium carbonate. It is used in the determination of urea in the urine, blood and other body fluids, either by determining the increase in alkalinity of the fluid to which it is added, or else the ammonia produced by it in the fluid is removed and estimated.

UREASE—SQUIBB.—A standardized preparation of urease obtained from the jack bean. It is supplied in the form of powder and tablets containing 0.1 gm. E. R. Squibb and Sons, New York.

Publisher's Notes

THE MAKING OF AMPOULES.

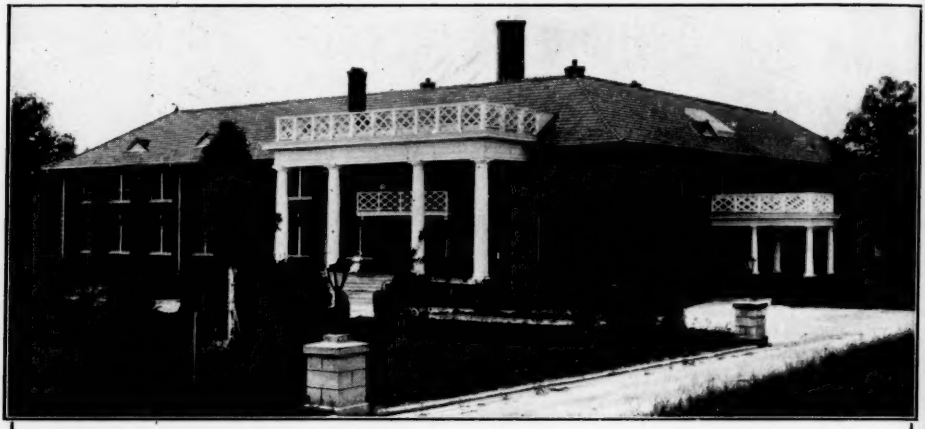
An illuminating article on the manufacture of glaseptic ampoules of sterilized solutions, as conducted in the laboratories of Parke, Davis & Co., appears in a recent issue of Therapeutic Notes. It is noteworthy because of the emphasis placed upon the careful methods which are essential in the production of both solution and container.

"First of all," says the Notes, "the greatest care is taken in the selection of the glass from which the ampoules are made. It is of the first quality, and must be free from alkali in order to obviate any possibility of contamination or chemical action on the solution. This is vital, for it is imperative that the purity and stability of the contents of the ampoule be assured.

"The medicaments used in preparing solutions are treated with the most suitable solvents—e. g., oils, distilled water, or physiologic salt solution—and the solutions are invariably adjusted to a fixed standard of strength; that is, each contains a specific amount of medicament to a given volume, thus insuring accuracy of dose. The solutions are subjected to the process of sterilization, either by heat applied in an autoclave, at intervals, for four or five days, or by passage through a Berkefeld or Pasteur porcelain filter. They are then passed into sterilized bottles, and samples are submitted to the biological department for a series of sterility tests that extend over a period of five days.

"The ampoule containers, cleansed and sterilized, are filled with the sterilized and tested solutions by machinery. The neck of each ampoule is hermetically sealed in a gas flame, and ampoules and contents are again subjected to the sterilization process, this time by the careful application of heat, care being taken to adjust the temperature of the apparatus to such a degree that the medicament will not suffer injury. The hermetically sealed container effectually protects the solution from bacterial contamination and oxidation, while the actinic effect of light is prevented by enclosure of each ampoule in an impervious cardboard carton."

As indicative of the trend in hypodermatic medication it may be noted that more than sixty sterilized solutions are now supplied by Parke, Davis & Co. in glaseptic ampoules. Convenience, asepsis, stability, accuracy of dose—solutions in ampoules appeal to modern practitioners on these grounds.



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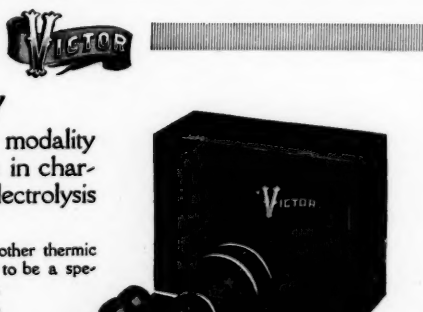
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